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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/570,104

04/03/2006

Rainer Scharp

SCHARP6PCT

5054

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EXAMINER

MCMAHON, MARGUERITE J

ART UNIT

PAPER NUMBER

3747

MAIL DATE

DELIVERY MODE

03/17/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/570,104	<b>Applicant(s)</b> SCHARP, RAINER	
	<b>Examiner</b> Marguerite J. McMahon	<b>Art Unit</b> 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evans (6,003,479) in view of Sougawa (4,969,433), Howes (5,056,681), and Clary (3,430,969). Evans shows a piston having a basic body whose one face forms a piston head 52 (see Figure 3), pin bosses 72, with pin bore disposed on the underside of the basic body, skirt elements 54 that connect the pin bosses with one another, a ring element 56 disposed in the radially outer edge region of the piston head, which forms a ring-shaped cooling channel 64 with the basic body, the ring element being connected with the basic body by way of a screw connection (see column 2, lines 40-44).

Evans shows everything except the piston and ring element being formed of aluminum and being forged and cast, respectively, the screw connection being sealed by means of a weld seam, and having a ring insert consisting of Ni resist (which is a trademarked name for austenitic cast iron), and the ring insert being cast into the piston.

Sougawa (4,969,433) teaches that it is old in the art to form the piston from aluminum, and to employ either forging or casting (see column 2, lines 38-40). It would have been obvious to modify Evans by forming the piston from aluminum, since this is a

commonly utilized lightweight material, and to employ forging and casting techniques, since these are conventional forming methods in the piston art.

Howes teaches that it is old in the art to employ welding as a means of sealing a threaded connection (see column 4, lines 44-49). It would have been obvious to one having ordinary skill in the art to modify Evans by employing a welding seam as a means of sealing the threaded connection, in order to prevent fluid leakage.

Clary teaches that it is old in the art to employ a ring insert 18 in the piston, the ring insert being comprised of Ni resist (see column 3, lines 40-43). Note that Ni resist is a trademarked name for austenitic cast iron. It would have been obvious to one having ordinary skill in the art to modify Evans by employing a piston ring insert comprised of Ni resist, in order to provide improved wear resistance to the compression ring groove. Note that it is conventional in the engine art to employ piston ring inserts in the compression ring groove, in order to provide improved wear resistance. Clary also cites that it is old in the art to employ several different methods for incorporating the ring insert into the piston, including casting the piston around the ring insert (see column 1, lines 35-37). It would have been an obvious matter of design choice to employ this conventional method of incorporating the ring insert into the ring element of the piston.

Note that Applicant has filed a terminal disclaimer which has been incorporated into the IFW although the serial number utilized on the terminal disclaimer is 11/570,104. It is assumed that Applicant intended the terminal disclaimer for the instant invention.

### ***Response to Arguments***

Applicant's arguments filed 11/28/07 have been fully considered but they are not persuasive. Applicant has argued that secondary reference Howe relates to a different area of technology and hence one of ordinary skill in the art would not look to Howe. The examiner finds this unconvincing, as the Howe reference is solving a problem which is found in the original reference, namely that of how to create a good seal between two elements which are screw threaded together.

Applicant further argues that none of the references teach that a ring insert is cast into the ring element of the piston. However, as noted above, Clary does teach that it is old in the art to cast the ring insert into the piston, and mentions that it is a conventional method of incorporating ring inserts. While it is true that Clary does not show casting the ring insert into the ring element of the piston, since Clary does not show a separate ring element, it seems to the examiner that this is not only a piecemeal analysis of the references which does not take into account the elements shown by all the references employed in the rejection (i.e. note that the original reference does employ a separate ring element), but that it is really splitting hairs about the process utilized to produce the product in what is a product by process claim.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marguerite J. McMahon whose telephone number is 571-272-4848. The examiner can normally be reached on Monday-Wednesday and Friday, 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Cronin can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit: 3747

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/Marguerite McMahon/  
Primary Examiner, Art Unit 3747

Marguerite McMahon  
Primary Examiner  
Art Unit 3747

<div><b>Application Number</b></div> <div></div>	<b>Application/Control No.</b>	<b>Applicant(s)/Patent under Reexamination</b>	
	10/570,104	SCHARP, RAINER	
	<b>Examiner</b>	<b>Art Unit</b>	
	Marguerite J. McMahon	3747	